Bruhath Bengaluru Mahanagara Palike

QUALITY ASSURANCE/QUALITY CONTROL REPORT

Office of the Chief Engineer (Quality Assurance/Control) Annexure-05,
BBMP Head Office, Hudson circle Bengalore-001,
Ph.no:08022975541, E-mail ID:qualitycontrol.bbmp@gmail.com

QUALITY ASSURANCE REPORT/QUALITY CONTROL REPORT

CE/QA/PR/346/2022-23, DATE:23.03.2023		
Name of Work	:	Developments of roads and drains at Machohalli, Kadabagere, Gollarahatti (Kitthanahalli), Singanayakanahalli Grama Panchayathi limits and surrounding areas of Yelahanka assembly constituency under Amrutha Nagarothana Grants Package – 06 Estimated cost 1600.00 Lakhs
Job Code	:	003-23-000001
Bill No& Amount	:	**3rd & Part Bill, Rs.4,96,64,509.97 (Including GST)**
Name of Agency	:	**Sri. Venkatraju.K.**
Type of Test Performed	:	Rebound Hammer test as per IS13311-(2)-1992 .
Materials on which Tests Was Performed	:	1.RCC Drain wall (M20) 2.Precast cover slab (M20) 3.Cement Concrete Road (M30)
Officers present during inspection	:	1.Sri. Chandrakanthraj AE – Project division Yelahanka 2. Sri.Rajanikanth Malli AEE – Project division Yelahanka 3. Sri C. Shridhar. AEE-Quality Assurance
Project Management Consultants	:	M/s Silicon Consulting Engineers
Observations	:	➢ NDT (Rebound hammer test) was conducted by Project Management Consultants at random locations in presence of AE (Project division Yelahanka) & AEE (Project division Yelahanka) along with AEE of QA division ➢ The Rebound Hammer Test was conducted randomly on RCC Drain wall (M20), Precast cover slab (M20) & Cement Concrete Road (M30) are recorded by the PMC consultants. ➢ The readings of Rebound Hammer Test are tabulated and analysis of test results done by PMC is here by furnished. ➢ The location wise test results are reproduced in the tables shown below.
Test Locations	:	Location 1: Kithanahalli (Infront of Nandini Parlour) Location 2: Ravuthanahalli -Ganga Hardware Shop road (Infront of Hardware Shop) Location 3: Bettahalli Bharathamatha Presidency School Road (1st cross Junction Road, Infront of Laxmi venkateshwara Nilaya, Ch18.00m from road end) Location 4: Kitthanahalli (Beside TC Aishwarya Creation Centre) Location 5: Ravuthanahalli - Arasappa house Road. (opp to Jeevan Nilaya)

21/3/23 ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/3/23

21/3/23 ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/03/2023 ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/03/2023 ಮುಖ್ಯ ಅಭಿಯಂತರರು ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-01: Rebound Hammer Test Results for Location-1

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at Kithanahalli (Infront of Nandini Parlour)					
1	C C Road (M30)	30	31.22	30.00	Vertical down
2		32			
3		32			
4		30			
5		31			
6		33			
7		32			
8		30			
9		31			

Table-02: Rebound Hammer Test Results for Location-2

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at Ravuthanahalli -Ganga Hardware Shop road (Infront of Hardware Shop)					
1	C C Road (M30)	32	30.55	30.00	Vertical down
2		32			
3		29			
4		28			
5		31			
6		33			
7		30			
8		29			
9		31			

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/3/23

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/3/23

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/03/2023

ಮುಖ್ಯ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-03: Rebound Hammer Test Results for Location-3

Sl. No.	Land Mark	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at Bettahalli Bharathamatha Presidency School road						
1	1st cross Junction Road	C C Road (M30)	32	31.88	31.00	Vertical down
2			30			
3			31			
4			32			
5			34			
6			31			
7			30			
8			34			
9			33			
1	Infront of Laxmi venkateshwara Nilaya		31	32.11	31.00	Vertical down
2			33			
3			33			
4			35			
5			34			
6			32			
7			30			
8			30			
9			31			
1	Ch18.00m from road end	C C Road (M30)	34	32.33	32.00	Vertical down
2			32			
3			30			
4			34			
5			32			
6			33			
7			31			
8			30			
9			33			
1		RCC Drain wall (M20)	29	28.00	22.00	Horizontal
2			30			
3			29			
4			28			
5			28			
6			27			
7			27			
8			28			
9			26			
1		Precast cover slab (M20)	24	23.33	20.00	Vertical down
2			24			
3			25			
4			22			
5			23			
6			25			
7			21			
8			24			
9			22			

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
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ಮುಖ್ಯ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-04: Rebound Hammer Test Results for Location-4

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at Kitthanahalli (Beside TC Aishwarya Creation Centre)					
1	C C Road (M30)	33	31.77	31.00	Vertical down
2		30			
3		30			
4		32			
5		32			
6		34			
7		32			
8		31			
9		32			

Table-05: Rebound Hammer Test Results for Location-5

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2)	Impact Direction
Sample Tested Location at Ravuthanahalli - Arasappa house Road (opp Jeevan Nilaya)					
1	C C Road (M30)	30	32.33	33.00	Vertical down
2		32			
3		33			
4		33			
5		30			
6		33			
7		32			
8		34			
9		34			

Conclusion:

The file containing **3rd & part bill** has been submitted for the above work to QA department on 02.03.2023 requesting for spot inspection. Engineers of QA/QC division have visited the work spot on 13.03.2023

During the inspection, engineer in charge of work informed that items found in the bill, have been executed by the contractor & documents were made available by PMC team for inspection.

PMC team was instructed to assess the strength of concrete used RCC Drain wall (M20), Precast cover slab (M20) & Cement Concrete Road (M30) by Rebound Hammer Test .The Rebound hammer test were conducted by PMC in presence of engineer in charge of work.

From the test results furnished by PMC consultants, it is concluded that the results of the samples collected are in accordance with the standards/ specifications mention in the IRC codes. However, the results submitted by the PMC have been reproduced here with for further needful action. The results checked by QA/QC relates only for item tested in the particular location randomly.

Further, QA/QC directs the PMC and Engineer in-charge of the work that all materials used for the work shall be inspected, tested and accepted as per the relevant specifications before incorporation in the work. The frequencies and methods of sampling and testing materials, including those required for definite purpose and not covered by MORT&H specifications shall be in accordance to the relevant IRC or BIS or AASHTO/ASTM/BS standards in order of priority.

All materials or work not conforming to the requirements of the specifications shall be considered unacceptable and rejected. The unacceptable materials or works that are rejected shall be immediately removed unless the defects are corrected and approved by the engineer in-charge of work.

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The concerned Engineer in charge of the work shall follow the direction issued by Chief Commissioner Letter number dated 01.08.2022 and 14.09.2022 and take necessary action as appropriate in accordance with the law.

Note: -

This report by QA/QC is pertaining to the work carried out in **3rd & part bill** only. Therefore, further QA/QC reports shall be obtained for the items of work carried out in future Running Account bill / Final bill.

Safety precautions shall be taken at work spot to prevent any mishap, injuries or loss of life to general public and construction workers according to guidelines laid down in code of practices.

Engineer in charge of work shall obtain requisite approval and Implement traffic management plan prior to commencement of work.

Engineer in charge of work shall display details of work, work code, cost of project, start and completion date, and information of Engineer in charge of work with contact numbers at work spot.

Engineer in charge of work and Agency shall ensure that if any damages or defects occur pertaining to the executed work within the Defect Liability period (DLP), The same shall be rectified immediately on top priority without fail.

21/03/2023

ಮುಖ್ಯ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

21/3/23

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ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
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ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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Location 1: Kithanahalli (Infront of Nandini Parlour)

Location 2: Ravuthanahalli -Ganga Hardware Shop road (Infront of Hardware Shop)

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಮುಖ್ಯ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 3: Bettahalli Bharathamatha Presidency School, (1st cross Junction Road, Infront of Laxmi venkateshwara Nilaya, Ch18.00m from road end)

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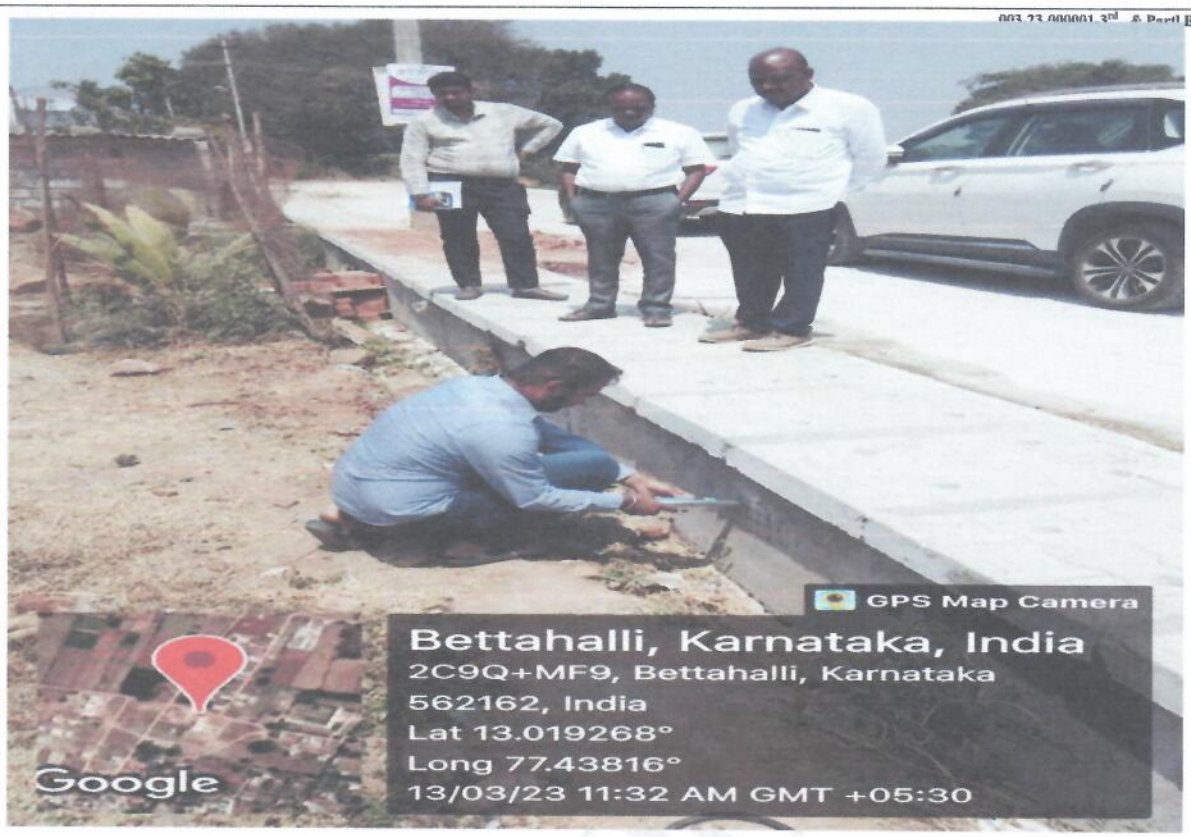

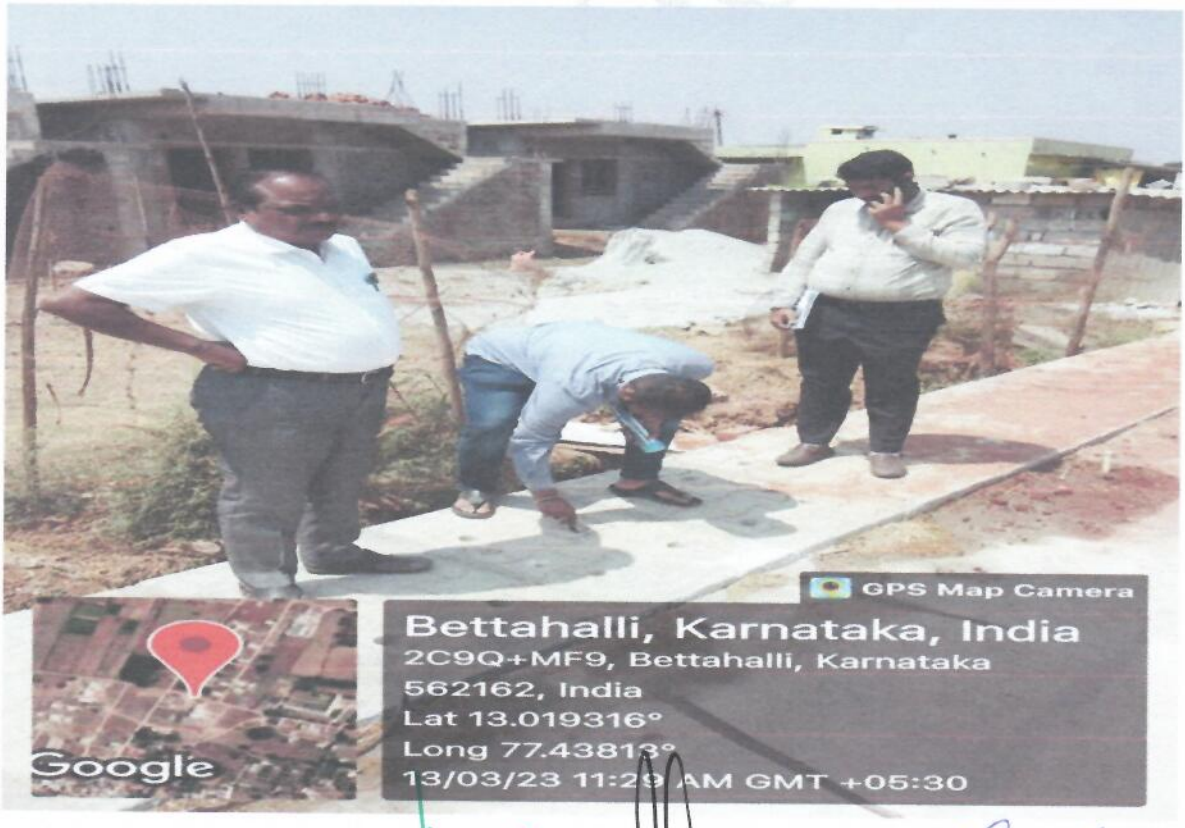

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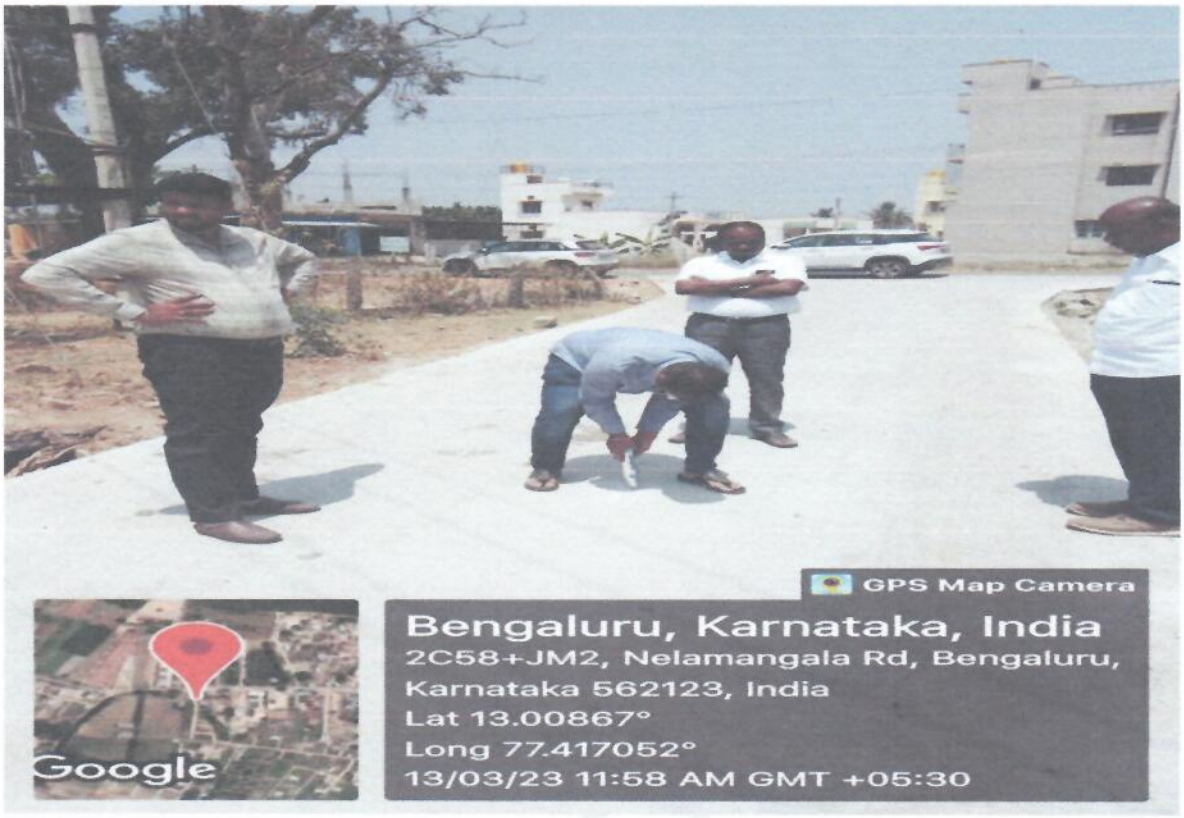
Location 4: Kitthanahalli (Beside TC Aishwarya Creation Centre)



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Location 5: Ravuthanahalli - Arasappa house Road (opp Jeevan Nilaya)

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